ABSTRACT

A high-mechanical strength copper alloy, which comprises Ni 1.0 to 4.5% by mass, Si 0.2 to 1.0% by mass, Mg 0.01 to 0.20% by mass, Sn 0.05 to 1.5% by mass, Zn 0.2 to 1.5% by mass, and S less than 0.005% by mass (including 0% by mass), with the balance being made of Cu and inevitable impurities, wherein the alloy has a tensile strength of 800 N/mm^2 or more, and wherein the alloy has a stress relaxation ratio of 10% or less.